# The limits of liberalization: the power sector

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**Abstract**

Alongside capital, land, and labour, electricity is perhaps *the* key input for capital accumulation today. This chapter uses evidence from the power sector to unsettle two key frames that are commonly applied to analyse contemporary India's political economy. First, the sector's continually poor performance casts doubt on the extent of the state's 'pro-business tilt'. The pattern of subsidies and rents suggests that this tilt has in practice been limited, painful, and regionally uneven. Second, the persistence of inter-elite competition has shaped a distinctive dynamic of institutional change in the sector: liberalization as segmentation. Market institutions and producer subsidies have not displaced the statist system, but have been grafted onto it. The resulting system is characterized by uneven private investment and influence, and institutionalizes twin sets of subsidies for politically important consumer groups on one side and politically connected producers on the other. There remain serious doubts about the financial and environmental sustainability of this reform trajectory.

## Introduction

Alongside capital, land, and labour, energy—and especially electricity—is *the* key input for contemporary capital accumulation. Electricity is fundamental to distributive conflicts and the politics of natural resource mobilization. It has also been inextricably bound up with the Indian state project and regional modes of governance for over a century (Kale 2014b). Reflecting this importance, power was the first major sector opened to private

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investors in 1991. Since then it has witnessed almost a quarter-century of institutional restructuring to recalibrate the state's role. By 2014, it was taken to provide evidence of both catchphrases of the general election, 'crony capitalism' and 'policy paralysis'. For all these reasons, Arvind Subramanian (2012) compared it to the Dandi Salt March of 1930: 'Is power, or rather the power sector, today's salt—emblematic of both the pessimistic outlook and promise of India?'

The power sector therefore provides a crucial lens on Indian political economy. This chapter assesses the light that developments in the sector cast on contemporary Indian political economy from two related angles: the changing balance of power between dominant socioeconomic groups, and the country's distinctive trajectory of institutional change as it has been shaped by these constraints. It shows that power sector evidence unsettles two key analytical frames that are commonly applied to liberalization-era India.

First, and most obviously, the sector's continually poor performance casts doubt on the extent of the state's 'pro-business tilt', seen by many as the hallmark of the era of economic reforms from the 1980s onwards.[2] A survey of contemporary power subsidies for consumers and producers instead reveals an admixture of continuity and change in India's 'basic political equilibrium' (Bardhan 1998). Despite almost a quarter-century of putative liberalization, in many States consumer-side electricity subsidies persist, most notoriously those which go to wealthy farmers. Meanwhile, poor-quality supply continues to damage industrial and commercial interests, aside from a narrow subset of well-connected energy producers. This pattern of subsidies and rents suggests that the pro-business tilt has in practice been limited, painful, and regionally uneven.

Second, this persistent inter-elite competition has fostered a distinctive dynamic of institutional change in the sector, a dynamic which troubles conventional accounts of liberalization as a single global process of displacing the statist system. The process of reform has instead been *accretive*, quite different to the institutional displacement that is associated with the archetypical, Anglo-American mode of 'deregulatory' liberalization.[3] Market institutions and producer subsidies have not displaced the statist system, but have been grafted onto it. The result is a form of liberalization as segmentation: the twin

[2] The phrase is Atul Kohli's (Kohli 2006, 2012; see also Rodrik and Subramanian 2004). Subsequently the notion that 'industrial capitalists are now the dominant group within the state apparatus' (Gupta and Sivaramakrishnan 2011, 6), systematically favoured by government policy, has since received wide credence. See, for example, Chatterjee (2008, 61) and the consensus presented in Tillin (2013).

[3] On Anglo-American 'deregulatory' liberalization and institutional displacement, see Thelen (2012, 146–7). Of course, even in the United States and Britain liberalization has had limits, as is revealed by Paul Pierson's celebrated work on the resilience of welfare state institutions (Pierson 1994).

sets of subsidies—for politically important consumer groups on one side, and politically connected producers on the other—are institutionalized in a segmented 'dual-track economy, whereby state-run and market-run production exist side-by-side' (Joseph 2010, 503). Just as interest-group competition constrains the potential for sweeping institutional change, the new politics of the reform era are in turn informed by this segmented system.

That India's reform process has been characterized by a 'very special type of gradualism'[4] is well known. This type of incremental, partial reform has often been seen as strategic 'reform by stealth' (Jenkins 1999); or, especially in the electricity sector, as a pathway toward second-best 'reform without losers' analogous to that taken by China (Joseph 2010; see also Victor and Heller 2007). Instead this chapter suggests that, at least in the power sector, the state-market hybrid system is neither stable nor coherent. Not only is it failing virtually all categories of consumers; it is financed through the short-term exploitation of natural resources and state-owned enterprises, and through the suppression of demand. Rather than stealthy gradualism, then, the ad hoc compromises of the reform process have so far institutionalized a system which is technically, financially, and environmentally dysfunctional.

The first half of the chapter explores the lessons from power sector evidence about the relative influence of competing dominant socioeconomic groups since 1991. It surveys major subsidies in the power sector today, providing a snapshot of its regionally varied political economy after more than two decades of putative reforms. The second half examines the constrained trajectory of institutional reform that this has helped to shape and through which these multiple subsidies are institutionalized, before examining the sustainability of this emergent system.

## Electricity subsidies: continuity and change in the 'basic political equilibrium'

This section provides a review of contemporary electricity subsidies, both consumer- and producer-side. The utility of electricity subsidies—and the informal subsidy that is politically condoned and systematic power theft—as an indicator of wider trends is well established, both as an indicator of the relative power of different socioeconomic groups (Golden and Min 2013) and a proxy for governance quality (Smith 2004; Kochhar et al. 2006; Subramanian 2012).

Across South Asia inadequate electricity supply is *the* biggest problem businessmen report facing (Ahmed and Ghani 2007, 11). Improved power has become a

[4] Montek Singh Ahluwalia, quoted in Jenkins (2004, 348).

major target of industrial lobbying. We might thus expect that a state undergoing a 'pro-business tilt' would alter policy to favour big business consumers hit by both internationally uncompetitive electricity costs and, more importantly, low quality of supply.[5] As large consumer subsidies for non-industrial and non-commercial users are widely recognized as a key cause of the sector's problems, we would expect a reduction in these subsidies.

Instead, while the proximate causes of the sector's poor performance have somewhat shifted over time, the persistence of consumer subsidies and the incompleteness of reforms continue to harm most categories of industrial and commercial consumers. Evidence from the contemporary power sector thus suggests that the pro-business tilt has been painful, incomplete, and geographically uneven.

### *Agricultural power*

The most notorious set of consumer-side subsidies in India go to agricultural consumers. In the first decade after independence, many State governments subsidized power for industrial users.[6] From the 1960s, as Green Revolution policies helped to spread irrigated agriculture, this pattern began to be reversed. The power sector came to be characterized by increasingly large subsidies for agricultural users, an 'energy–irrigation nexus' subsidized by higher tariffs for industrial and commercial consumers. Electricity consumption by the agricultural sector grew at an annual average compound rate of over 14 per cent between 1960/61 and 1970/71. This locked farmers into irrigation-dependent agricultural systems, creating a burgeoning environmental crisis and leading to a cycle of persistent underinvestment and low performance for many State utilities.

The beneficiaries of these subsidies tended to be wealthier farmers, able to afford to install and maintain tubewells. The subsidies have thus been read as 'widely representative of the distortions associated with the political economy of reform in India' (Sen and Jamasb 2012, 86). Analysts of independent India's 'first-generation' political economy used them as archetypical evidence of the influence of the dominant proprietary class of wealthy agriculturalists (Bardhan 1998 [1984], 46–7, 61; Varshney 1995). State-level evidence supports this emphasis on rural influence. The pro-agriculture shift in tariff

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[5] As had been suggested as early as a World Bank survey in 1962 (King 1967, 229-231), industrial consumers appear to prioritize *quality* rather price concerns (see also Joseph 2010, 509).

[6] Constitutional responsibility for electricity is shared between the centre and States, although the latter have responsibility for distribution (the all-important 'last mile' of delivery to individual consumers). The crucial institutions were the State electricity boards (SEBs), vertically integrated monopolies formed under the 1948 Electricity (Supply) Act. In most cases they came to operate as extensions of State energy ministries, relying on inconsistent payments from State governments.

subsidies was not regionally even, but was especially pronounced in States with powerful agricultural lobbies.[7] In mirror image, public-choice theorists considered them a typical example of patronage politics. Increasingly intense party-political competition led to downward pressure on agricultural tariffs as politicians competed to offer sops to wealthy farmers, who came to use power subsidies 'as a litmus test to judge whether politicians will serve their interests' (Victor 2009, 19; Wilkinson 2006; Tongia 2007; Golden and Min 2013, 90–95).

Moreover, often these subsidies pitted large farmers' interests against their industrial rivals directly, both through cross-subsidization and the allocation of scarce supply. In Andhra Pradesh, for example, rural electrification led to government-mandated power cuts for industrial consumers (Kale 2014a, 149). As a result large businesses increasingly exercised their option to exit the state-owned system. Industrial consumers, who accounted for almost two-thirds of total SEB sales in 1960, increasingly resorted to captive power plants. By 1991 the industrial share of public power usage had diminished to only 40 per cent. The rise of captive generation was particularly pronounced in States with poor utility performance and high transmission and distribution losses—and even more strongly linked to higher consumption from electrical pumpsets in the agricultural sector (Joseph 2010).

Has economic liberalization substantively changed this scenario? The initiation of power sector reforms in 1991—with the advent of independent power producers (IPPs) in the generation segment—brought no sharp break. Regional political economies of power appeared path-dependent in the medium term. Kale (2014a) forcefully argues that States with powerful farmer lobbies and high levels of 'wet' agriculture were *both* early rural electrifiers *and* found it difficult to reform their power sectors in the early years after 1991. Such States, even those which are otherwise considered comparatively industry- and FDI-friendly, struggled to raise electricity tariffs and thus with a cycle of underinvestment and power cuts. Faced with elections immediately after the passage of the 'watershed' Electricity Act of 2003, Andhra Pradesh, Punjab, Maharashtra, and Tamil Nadu all promised free power to farmers, while the reformist chief minister Chandrababu Naidu's 2004 election loss was widely regarded as a response to his push

[7] This is clearly demonstrated by Kale (2014a). Tamil Nadu, for example, enjoyed relatively high levels of rural electrification even before 1947, and turned early to cross-subsidization of rural electrification by industrialists. As a result it suffered from power shortages by the 1970s (*ibid*, 170). As early as 1968, Punjab turned to flat metering of agricultural power and Maharashtra in 1977; in the latter, although Mumbai remained an enclave of private ownership, the power sector accounted for 40 per cent of planned allocations by 1978 (*ibid*, 62–99). The relationship was iterative, Kale shows: States in which farmers mobilized or gained influence within government enjoyed higher levels of rural electrification; rural electrification in turn reinforced the growing power of these groups.

for power reform in Andhra Pradesh. In contrast, States with less dominant farmer lobbies appeared better placed: Odisha, with low levels of rural electrification and irrigated agriculture, became the unlikely pioneer of power reforms in the 1990s. Delhi, the only other province to privatize distribution, was also precociously urban (Kale 2007, 139–83).

By the early 2000s, industrial and commercial tariffs remained double those for domestic consumers, and more than 10 times those for agriculture (Tongia 2007, 129). Agriculture has accounted for around 25 per cent of total electricity consumption since 1990, but 4 per cent of total revenue—and only 7 per cent as late as 2011 (Table 1). The gap between subsidies booked by State utilities and the amount actually received from governments has continued to grow, between 2003 and 2011 reaching a cumulative total of $10 billion (Pargal and Banerjee 2014, 7).

**Table 1. Changing consumer mix over time**

| | Share of consumption (%) | | | Share of revenue (%) | | |
|---|---|---|---|---|---|---|
| | 1991 | 2001 | 2011 | 1991 | 2001 | 2011 |
| **Agriculture** | 26 | 26 | 23 | 4 | 4 | 7 |
| **Domestic** | 17 | 25 | 24 | 11 | 16 | 20 |
| **Industrial, commercial and others** | 57 | 49 | 53 | 83 | 79 | 72 |

*From Figure 4.13 in Pargal and Banerjee (2014, 85), using Planning Commission data*

More than two decades after 1991, electricity subsidies remain a pillar of the 'subsidy syndrome' in Indian agriculture and the sector continues to be plagued by endemic load-shedding and financial turmoil. Power sector evidence thus provides some support for the notion that larger agriculturalists remain a dominant socioeconomic grouping, especially in certain States.

### *Plural elites*

Nonetheless, the 'basic political equilibrium' has not remained static. Nor are agricultural consumers a monolithic class or the only group with an interest in the maintenance of the unreformed status quo. The political economy of power subsidies today is more complex than the classic emphasis on agriculture versus industry or 'rural bias' might suggest.

First, agriculturalists are a diverse group. The benefits of rural electrification and subsidies have historically not only been concentrated among larger landholders, but have often favoured those cultivating specific water-intensive crops: the wheat and rice farmers of Punjab and the 'sugar barons' of western Maharashtra with their links to urban politics, for example (Kale 2014a). This has only become more apparent as the liberalization era has progressed. Evidence is mounting that virtually *all* categories of consumer would be willing to pay more for a higher quality of service (Santhakumar 2008)—including large 'progressive farmers' oriented to export markets (Kale 2007, 263–7). In the Bharatiya Janata Party's 2014 general election campaign, consistent rather than free power appeared to become the political promise of choice.

As this suggests, regional political economies are not frozen landscapes; path dependence is not fate. There are indications of a shift in power or the willingness of politicians and regulators to take on rural interests: in recent years, all-India average agricultural tariffs have risen faster than those for other groups, although they remain low (Planning Commission 2014, 157). Several States with historically powerful agricultural lobbies have partially restored the financial health of their utilities. Most famously, Gujarat took administrative action to recalibrate the subsidy regime by separating out rural feeder lines into (cheap but unreliable) farm- and (more expensive but higher-quality) non-farm supplies, an idea recently imitated in seven other States.[8] Several of the worst loss-making States have embarked upon reforms, including Madhya Pradesh and Rajasthan, while Andhra Pradesh and Maharashtra both score highly for power governance reforms.[9]

The pace of change should not be exaggerated. In many States agricultural subsidies and power theft are declining only slowly. Tamil Nadu, Punjab, Andhra Pradesh, and Haryana continue with agricultural tariffs well below the all-India average (Planning Commission 2014, 198). Today the most dramatic losses—and debts—are concentrated in a small number of States, including Madhya Pradesh, Tamil Nadu, Jharkhand, Rajasthan, and Uttar Pradesh (Pargal and Banerjee 2014, 55–6, 61). In 2011, only Kerala, Delhi, and West Bengal had tariffs that covered costs and made profits without requiring a subsidy. Nationally, the gap between cost and revenue has virtually doubled since 2003: across India the ratio of sales revenue to cost was only 66 per cent in 2011-12 (Planning Commission 2014, 161). This is due not to any major expansion of subsidies and theft, but rather rising interest costs and the soaring cost of purchased power, thanks to increasing fuel prices and poor power procurement planning

[8] For a review of varying State experiences with the separation of rural feeders, see ASTAE (2014). While Gujarat has successfully controlled financial losses from the agricultural sector, evidence from Rajasthan is more mixed.
[9] As measured by a 2013 reform implementation scorecard by Deloitte and the World Bank (see Pargal and Banerjee 2014, 97–104).

(Bhattacharya and Patel 2011; Pargal and Banerjee 2014, 71–6). Nonetheless, the sector's older political settlement constrains utilities' ability to raise tariffs enough to compensate for these rising costs.

The responsibility of agricultural subsidies for the financial plight of the power sector has often been exaggerated, however.[10] Other interests are also implicated in the proliferation of subsidies and blocking reforms. Domestic consumption remains extensively subsidized, if less heavily than agriculture in most States.[11] Again, these subsidies largely go to elites: in 21 States fixed or minimum consumption charges mean that low-consumption households pay more than higher-consumption households (Pargal and Banerjee 2014, 84). Farmer lobbies are not the only interests to mobilize to block tariff rises, as demonstrated by urban activism in Delhi—for example, through the middle-class United Residents' Joint Action (URJA) and the Aam Admi Party's stance towards tariff revision.

For many years, too, agricultural subsidies were calculated as a residual, masking poor utility productivity and power theft, and systematically underestimating consumption by domestic and industrial consumers (Gulati and Narayanan 2000). In 2011 the all-India average aggregate technical and commercial losses had dropped by 12 per cent since 2003, but still stood at 26 per cent of power generated—five times the estimate for China (Pargal and Banerjee 2014, 5). Again, there is wide regional variation in this figure. States which have succeeded in reducing transmission and distribution (T&D) losses include Andhra Pradesh, Tamil Nadu, and Punjab. In contrast, States with extremely high levels of T&D losses, and correspondingly poor-quality supply, include Jammu & Kashmir, Bihar, Madhya Pradesh, Jharkhand, Uttar Pradesh, and much of the Northeast. In such States theft is not simply a matter of micro-level corruption but is a tacitly condoned informal subsidy: Min and Golden (2014, 624) demonstrate that in UP tolerating power theft became 'part of deliberate political strategy', rising around elections. There appears to be a distinction, then, between regimes with influential farmer lobbies and a well-institutionalized tradition of 'electric populism' (see Kale 2014a), and less well-institutionalized systems in which clientelism is associated with weak rule of law and corruption (Smith 2004).

[10] Indeed, Gulati and Narayanan (2003) argued that policy in general is biased *against* agricultural interests.
[11] In 2011-12, the all-India average tariff for domestic consumers was 313.72 paise/kWh, compared to 143.64 for agricultural, 513.92 for industrial, and 689.88 for commercial consumers (Planning Commission 2014, 195). Domestic subsidies were estimated to cost Rs. 37,047 crore nationwide, compared to Rs. 57,901 crore for agricultural subsidies (*ibid*, 211, 208).

Who steals all this power? While much theft is undoubtedly rural,[12] the extremely high levels of T&D losses in Delhi before privatization—almost 60 per cent—suggest that urban constituencies are also often implicated, and on a scale that cannot be blamed on theft in urban slums. The then power secretary argued in 2000 that the sector's problems had been misdiagnosed throughout the first decade of reforms: 'the reality is in a very organized manner electricity is pilfered by large consumers in industrial groups and high-income residential and commercial groups' (Shahi 2005, 280). In 1998, for example, news broke of a set of mini-steel plants in Maharashtra that had systematically stolen power worth Rs. 20 crore (Smith 2004, 2069). Like the exit of business consumers to captive options, such high levels of theft have trapped some utilities in a spiral of weak revenues and underinvestment.

There therefore exists a wide, if incoherent, coalition of interests with an interest in retaining elements of the consumer subsidy regime—thereby damaging wider business interests. There *has* been a set of business interests that has benefited from reforms since 1991, however, albeit inconsistently: large, politically connected domestic energy players who receive producer-side subsidies.[13] Most notorious were the lavishly attractive terms offered to independent power producers (IPPs) in the 1990s, including the public shouldering of default risk, as 'attracting capital became an end in itself, rather than a considered means' (Dubash 2011, 70).

Even after mitigating the excesses of the first decade after 1991, privileged firms still receive generous terms from the state. These include subsidies, tax holidays, guaranteed rates of return, soft loans, and the discretionary allocation of natural resources such as coal blocks, land, and land-based financing, as the breaking of the 'Coalgate' coal block allocation scandal in 2012 revealed. A study of 19 'average' thermal projects (i.e. excluding the excesses of some early projects like Enron's Dabhol plant in Maharashtra) by the World Institute for Sustainable Energy found that cumulative subsidies amounted to 150 per cent of the original investment (WISE 2008). Furthermore, while overly generous power purchase agreements are mostly a thing of the past thanks to competitive bidding, large corporations have made sustained efforts to

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[12] Again drawing on evidence from UP, Golden and Min (2013) suggest that the beneficiaries of theft may also be wealthy farmers, as their supply is unmetered and so easy to expand (though the same may be true when meters are tampered with). They find evidence *both* that wealthy farmers benefit regardless of the party elected, *and* that parties reward domestic voters in their 'core' strongholds (rather than those in swing constituencies).

[13] Labour interests, implicated in the literature as a common obstacle to reforms, have more often been outmanoeuvred. The number of utility employees has dropped from 977,000 in 1998-99 to 660,000 in 2011-12, and the number of employees per thousand customers from 9.89 to 0.36 over the same period (Planning Commission 2014, 150). It is telling, though, that Gujarat's successful power reforms involved patiently working *with* utility staff rather than tackling them directly.

renegotiate agreements where they have become less than favourable, a persistent problem in Indian infrastructure sectors (Pratap 2013).

These benefits do not apply equally to all firms. For example, companies not awarded captive coal blocks have struggled to compete in the midst of the fuel supply crisis. Unsurprisingly, given the rent-intensive nature of utilities sectors, the beneficiaries of the pro-business tilt in the power sector have so far comprised not 'business' as a whole but only a narrow subset of industrial interests. In practice policymakers often favour well-connected 'powerbroker' firms with particularistic closed deals rather than fostering open competition (Sen and Kar 2014). Some of these benefits—for example favourable access to natural resources and the very generous rates of return built into many contracts—also apply to central public sector undertakings (CPSUs) like NTPC.[14] For their shared combination of political connections and adequate technical management, some scholars bracket both privileged state and private enterprises together as 'dual firms' (Tongia 2007; Victor and Heller 2007).[15] These incumbents form a new constituency that favours reforms of a particular type: gradual, opaque, and particularistic (*ibid*).

Such particularistic rents have proved unstable, however. As in the wider economy, the 'closed deal' world of the era of high mineral prices and high economic growth gradually brought about 'negative feedback effects' as the national regime's legitimacy fell (Sen and Kar 2014). Closed deals upstream in the power sector proved especially difficult to legitimize in the longer term because the sector's performance remains poor in many areas. Many private projects have become stranded or financially unviable after changes in coal availability and regulation.

This brief survey of power sector subsidies confirms the resilience of agricultural influence in some States. It thus suggests that the fragmentation of de facto political power among interest groups continues, with large industrial and commercial interests remaining the most obvious losers from the continuing underperformance that this engenders. In an updated epilogue to his 1984 work which considered the early years of liberalization, Pranab Bardhan thus singled out electricity subsidies as evidence that 'one should not exaggerate the extent of shift in the basic political equilibrium' (1998, 129–30). Writing from the alternative perspective of Kalecki's 'intermediate regime', Barbara

[14] Formerly the National Thermal Power Corporation.

[15] Their examples include NTPC on one hand and Reliance and Tata on the other. The discussion of the system's sustainability below clarifies the difference between public and private players on this front, however, arguing that public sector enterprises are open to other forms of short-term exploitation by the state to help fund the subsidy economy.

Harriss-White agreed that '[i]n practice, control of the economy is being wrenched with the greatest difficulty from the "intermediate classes"', with 'considerable inertia and indecision in tackling the very largest state transfers' like power subsidies (2003, 65). That these interests are *elite* is clear, and such elite pluralism has led to fundamentally inegalitarian outcomes. Three-quarters of Indians lack regular access to commercial energy for household use—300 million people still lack power altogether—yet in 2010 only 13 per cent of subsidy payments went to households below the poverty line (Pargal and Banerjee 2014, 86–7).

Nonetheless, the reform era has brought changes in this pattern of subsidies. First, there is some evidence that virtually all categories of consumer would be willing to pay more for higher-quality supply—though middle-class activism in Delhi despite the city's improved supply suggests that mistrust of politicians and private firms may subvert this. Second, the shift from a state-centred to a partially reformed system has created new, if unstable, rents for some producer firms. The coexistence of both older consumer subsidies and new producer subsidies raises crucial questions about the institutional trajectory of reform, to which we turn now.

## Forging a dual-track system: India's distinctive dynamic of institutional change

The presence of a broad coalition of interests with some stake in maintaining the status quo constrains the direction of reform. As the then chairman of the Central Electricity Regulatory Commission stated in 2012: 'The political economy of the sector is crucial. Utilities are nothing but extension of government in developing countries… Solutions must lie within the existing political settlement.'[16] This section examines the distinctive trajectory of institutional reform that has resulted from these political-economic constraints.

Since 1991 the power sector has witnessed broadly three phases of reform. The first phase amended the 1948 Electricity (Supply) Act to permit private players to enter the sector as independent power producers (IPPs) with long-term contracts to supply State utilities. The second phase of reform involved a period of State-level experiments with SEB restructuring, independent regulators, and the privatization of distribution, informed by the World Bank's so-called 'global template' for power reforms (World Bank 1993). Both of these phases were regarded as comparative failures for their high costs and lack of success in attracting sustained private investor interest. The policy fiascos of the 1990s and the arrival of a more stable national regime in 1999 together

[16] At a CRISIL power sector seminar, New Delhi, 7 May 2012.

provided fuel for more thoroughgoing reform. In the third phase, the centre took up the initiative through the drafting and (attempted) enactment of the Electricity Act of 2003, in which competition superseded the thornier issue of privatization as a silver bullet.

While on paper the Electricity Act was in many ways a radical piece of pro-market legislation, in practice the striking facts have been institutional continuity and institutional proliferation alongside the changes prescribed by the 'global template'. Given the political-economic constraints that policymakers face—as well as serious intellectual and ideological challenges to the continued relevance of the global template—the sector has witnessed not a process of liberalization as deregulation but something far more segmented and dualistic.

Deregulatory liberalization involves the explicit dismantling of older institutions through direct assault (Thelen 2012, 147). In contrast, the mode of liberalization in the Indian power sector amounts to a form of dualization:[17] it 'do[es] not necessarily imply any direct and comprehensive attack on organized interests, but only the enlargement of certain areas of the economy within which market forces and associated relations of authority and control are able to operate more freely than in others' (Goldthorpe 1984, 329; Thelen 2012). The process of institutional change that this type of liberalization brings is necessarily more marked by compromise and continuities than the more familiar deregulatory model, because it is shaped by distinct political dynamics: the persistent inter-elite competition outlined in the first section. The practical result in the power sector has been the creation of a layered and improvised state-market hybrid that institutionalizes the uneven involvement of the private sector alongside the continuation of older subsidies and statist instruments.

### ***The segmented policy process***

The broad political-economy changes introduced in the previous section are mediated through institutions. With constitutional responsibility for power policy shared between the centre and States, and with energy policy strewn across different ministries until 2014, the fragmentary nature of the state and the fragmentary character of the political settlement prove mutually reinforcing. They facilitate the creation of a segmented policy

[17] 'Dualization' is typically associated with developments in labour markets: the segmentation of the labour force between a core of privileged, unionized 'insiders' and the growing mass of 'outsiders' denied many of the benefits and stability that accrue to the core. Here I am more interested in a similar dynamic of *institutional* change to that pinpointed by Thelen (2012). The practical dynamic is reversed: rather than leaving intact a set of state-supported elites, power sector reform has left the state-owned residual to decay, though again a new market-oriented zone profits. I prefer the term 'segmentation' to 'dualization' because it more accurately captures the organizational incoherence and complexity that has accompanied this dynamic.

process in which particular groups are differentially able to influence various policymaking activities.

Today there is widespread agreement among influential Indian scholars that federalism has facilitated reform by fragmenting opposition (see especially Jenkins 1999). Yet the same proliferation also fragments the spread of reforms. The Indian state's organizational structure—multi-tiered and increasingly complex—provides multiple points of entry for new rent-seeking strategies and multiple veto points at which these strategies can be resisted. To stylize, residential and agricultural elites rely upon their influence on State governments through the ballot box, regulators, and the courts, and typically seek to influence particular policy implementation decisions, such as tariff rises. Private firms instead rely not upon electoral weight but on high-level lobbying, seeking to influence earlier stages of the policy process—agenda setting and policy formulation—behind closed doors. The fragmented state system enables both sets of groups to exercise influence upon different levels of the state. In this way 'reform by stealth' also produces unreformed zones outside its heartlands: it produces *segmentation*.

As the regionally differentiated subsidy patterns discussed above suggest, the federal division of responsibility for electricity has often facilitated resistance to power reforms at the State level. In this context, attempts at liberalization amount to form of discreet centralization, providing the newly 'fiscal disciplinarian' central government with instruments to reorient the sector away from the older subsidy regime (Rudolph and Rudolph 2001). The centre uses its not considerable financial sway as both carrot and stick to incentivize reform compliance, both rewarding restructuring and disciplining States for underperformance. The centre's ability to harden budget constraints is limited in practice, however. States can circumvent controls, for example through underpayments to central generation firms, market borrowing, or using capital allocations to cover operating costs.

The state's fissures are not only vertical. Horizontal competition between state agencies and ministries also until recently undermined comprehensive energy planning by institutionalizing representation for naturally opposed interests—like the power and coal sectors—in different bodies at the apex of the state. In such a 'byzantine and fragmented' bureaucracy, India has had virtually no coordinated energy planning (Dubash 2011, 67). Federalism and institutional proliferation thus together act to compartmentalize and concentrate societal influence while weakening state coordination, so interest-group competition does not simply facilitate state autonomy. Whether the current trend of centralization under the new national administration bears fruit remains to be seen.

### ***The dual-track power sector***

This fragmentation of political power between different elites, institutionalized through a vertically and horizontally fragmented state, leads to a reform process marked by unevenness and compromise. The result has not been sweeping privatization or a simple state transition from provider to facilitator. It is instead 'more accurate to describe the market as grafted on to rather than replacing the state sector, and with decidedly mixed results' (Dubash 2011, 69). Today around 36 per cent of installed generation capacity is owned and financed by the private sector, compared with 27 per cent for the centre and 37 per cent for the States.[18] More than this, thanks to the political inability to tackle older consumer subsidies head-on, competing interests dominate in almost parallel domains of the power sector. Change has been introduced at the margins or in parallel, while the state system continued to drift into financial unviability.

The system's financial problems are primarily down to distribution. Yet the first phase of reform, the IPP policy, did not deal directly with the politicization of the distribution segment. It focused narrowly on increasing generation capacity and mobilizing scarce capital, thereby 'promising to support rather than dismantle the existing [political-economic] matrix' (Kale 2014a, 99). The emphasis was not on privatization, but the introduction of new greenfield projects in parallel with the public system. This continues with the ultra mega power plants of the twenty-first century, partnerships which fuse the private sector with renewed state activism.

Even after distribution was recognized as a gaping hole in the reform process, politicians and technocrats have struggled to reform the segment—it is simply too politically unpalatable. As a result, reform has often taken the form of unsuccessful backdoor initiatives, which layer new institutions atop or alongside the sediment of the state-owned system rather than displacing it. Independent regulatory agencies were imported 'through the back door' as part of the World Bank's global template, in order to depoliticize tariff-setting and encourage private investment (Dubash 2013). This was no strategic reform by stealth, however. Instead, the uncritical fashion in which the agencies were transplanted meant that they were swiftly forced to creatively accommodate 'populist pressures' and moderate tariff hikes (*ibid*, 113).

Backdoor reform continued with open access, the pillar of the 2003 Electricity Act. Increasing numbers of industrial and commercial consumers opted for captive generation from the 1980s on, despite its greater cost. (Others have illegally exited

[18] Central Electricity Authority data, 31 August 2014.

through meter tampering and other forms of theft, as above.) This offered an opportunity to leverage reform, increase private investment, and bring in competition. The open access provisions of the Electricity Act thus amounted to a pragmatic attempt to institutionalize the exit option, putting pressure on SEBs as their most lucrative customers abandoned them. For Joseph (2010), this marks an attempt to reform distribution by the back door while avoiding directly antagonizing agriculturalists or State governments. In practice, however, many States have remained reluctant to cede control over such lucrative customers, resorting to high charges to discourage exit and thereby stymying distribution reform from above.[19]

Today private participation is still concentrated in generation and (to a lesser extent) transmission, but remains limited in the sector's more troubled segments. Only Odisha and Delhi, both of which lack strong farmer lobbies (as above), have privatized distribution, both before the 2003 Electricity Act. Attempts to award franchises for ring-fenced urban networks have enjoyed mixed success in attracting bidders, while the private sector has so far largely stayed away from making large-scale investments in rural electrification (Mukherjee 2014, 13). In this context, the large rents that some private firms receive for their involvement amounts to a form of state compensation for the risks that they run in becoming embroiled in this most politicized of sectors.

Similar policy initiatives resemble attempts to institutionalize a segmented, dualistic system more explicitly. Increasing attention to urban distribution franchises, the rise of short-term market power purchases alongside long-term contracts, and special economic zones with dedicated power plants again attempt to create parallel systems. Without decent regulation, such a solution risks ceding 'all the family silver (big cities, industrial areas, and SEZs)' to private players (Kumar and Chatterjee 2012, xiii). Lower-revenue consumer categories, such as rural areas and small, poorer consumers, will be left to increasingly decrepit State utilities. In this way, 'financially viable units (generally privately owned) and insolvent systems (generally state-owned) can co-exist' (Victor and Heller 2007, 289).

Other elements of reform have more closely cleaved to the state-centred model. From the mid-1970s, power CPSUs were created to permit greater central control and to provide examples of techno-managerial efficiency in the public sector. In parallel with the constitution of market organizations, this use of public 'national champions' continues, reworked in line with the market transition to give them a veneer of corporate

[19] While several States comply on paper, Pargal and Banerjee (2014, 8) find that only one has so far specified a route to reduce the cross-subsidization surcharge and so facilitate open access in practice.

governance. Such firms place pressure on State-level utilities, threatening to deny supplies to defaulting States and forcing reforms on sectors and provinces—rural areas, 'neo-patrimonial' States, perhaps even the coal industry—that have hitherto proved slow to change. In this light, reform in part appears a recalibration of the system to favour energy firms and CPSUs over 'mass' users. So Surya Sethi complains:

> The tariff increases and efficiency gains at the state utilities primarily guarantee the protected returns of bloated CPSUs and the private sector both of whom have gradually raised their stake in the sector and are, today, the dominant force because of being rewarded selectively with the highest regulated returns in the world. All this is at the cost of the state utilities… (2014, 19)

Nor are these firms mere relicts. Statism's resilience is bolstered by fears about energy security and the irrelevance of the global template outside its 1990s developed-world heartlands, a debate which raises the prospect of worldwide convergence between the extremes of liberalized power markets and central planning (Sen 2014).

The result of these piecemeal reforms is a segmented system, a 'hybrid market, where public and private investment coexist' as the result of confused waves of change rather than coordinated policy choices (Gratwick and Eberhard 2008, 3958). As state agencies and older subsidies have proved difficult to demolish, reforms have simply overlaid new organizational structures atop the sediment of older organizations. This process has been far more haphazard, piecemeal, and faltering than the concept of stealthy, strategic 'gradualism' suggests.

### *The sustainability of the state-market hybrid*

How sustainable and stable is this system, then? If segmentation and not institutional displacement has been the order of the game, is this process creating a durable alternative to the global standard of market-dominated 'deregulatory' power liberalization?

India is not unique in its continued state intervention in the energy sector and heavy consumer subsidies for electricity: 40 per cent of global energy subsidies are found in developing countries (Lockwood 2014, 3). Hybrid state-market power systems are also found in a number of other large emerging economies. Reviewing the evidence across five countries, utility regulation specialists conclude that such hybrid systems are 'not a brief waypoint on the road to some Shangri-la textbook market organization' (Victor and Heller 2007, 260). Instead, they offer a distinct and stable alternative to the 'global template':

> a 'dual market', combining attributes of the state- and market-based systems... While not the most economically efficiency outcome, the dual market arises and is held in place by strong political forces that favour a system in which parts of power generation and delivery are profitable even as other parts are plagued by nonpayment, inadequate investment, and economically inefficient operation. (*ibid*, 30)

In this vein, Joseph (2010) likens the Indian power sector to the 'dual-track economy' argued to be China's successful reform strategy. Its gradual and backdoor reforms, she suggests, may permit 'reform without losers'.

Such an assessment appears complacent in the current scenario. As late as 2011/12, India was the fourth largest provider of consumer-side fossil fuel subsidies in the world. Those above it—Saudi Arabia, Iran, Russia—enjoy far greater natural resource endowments, however. In contrast to many other subsidy-heavy countries, India is not fossil fuel-rich. Its 'dual-track' system has instead been funded through short-term means.

India's natural resources are directly passed on to both private power players, as well as through persistent coal theft (often with the collaboration of party politicians and bureaucrats). Profitable power and energy central state-owned enterprises are milked for resources through dividends, divestment (including cosmetic divestment—share buybacks and cross-holdings among SOEs—when private demand has been weak), underpricing, nonpayment by State utilities, and the transfer of assets to private firms. SOE divestment thus appears less a consistent project of 'vacating the commanding heights of the economy' than an attempt to mobilize resources, as the government remains the majority owner in such successful firms.[20] The result has been to undermine public sector enterprises despite their improved financial performance (Nagaraj 2015; Khanna 2015).

In addition, public sector banks and term-lending institutions have bolstered investments in the power sector, providing loans at below-market rates. New infrastructure finance corporations have developed bonds and partial credit guarantees to push up ratings and thereby encourage long-term investments by pension funds and insurance companies, while State Bank of India and the Life Insurance Corporation have also been used to prop up share sales. This direction of investment helped to bring about the impressive capacity additions of the Eleventh Five-Year Plan, based on target-beating

[20] CPSU prospectuses make it clear that the state sets their direction and could require the enterprises to act in ways counter to the interests of profit-minded minority shareholders.

private investment. As growth slowed and the fuel crisis worsened, though, the banking sector was left overexposed to 'subprime lending' in the stagnating power sector. Non-performing assets went up almost ten times between September 2011 and September 2012, leading commentators to speculate about the risk of financial contagion (Bhattacharya and Patel 2011; Pargal and Banerjee 2014).

The centre's incentives for improved performance have also been weakened by political exigencies and the need to avoid financial contagion from overexposure to non-performing assets in the power sector, creating moral hazard. This led to the second large-scale central bailout in a decade, a pattern that 'looks set to continue' or even worsen with the escalating fuel supply crisis since 2011 (Mukherjee 2014, 15). Again, as when the Dabhol power plant formerly owned by Enron was handed over to state-owned GAIL and NTPC, it appeared that the state had stepped in to socialize private sector losses.

In the end, the system is funded through the suppression of demand: through load-shedding, especially at peak times. The two-tier strategy thus has obvious limits. It harms consumers and concentrates vast financial liabilities in the hands of the state (Victor and Heller 2007, 292), while many private firms have been burned by the fuel supply crisis and the sector's overall financial and regulatory uncertainty (Mukherjee 2014, 12). Further reform therefore appears inevitable, but the process of institutional change and the ultimate fate of state intervention in the sector are, I submit, likely to remain distinct from the global template for 'liberalization'.

## Conclusion

The spectre of the blind men and the elephant always looms over such a study. It is dangerous to extrapolate from the allocation of subsidies for a single good or service.[21] Nonetheless, the importance of electricity for capitalist accumulation, distributive politics, the state, and the environment make it a critical lens through which to understand India's contemporary political economy.

With this caveat, this chapter has sought to draw out two troublesome sets of ideas that post-1991 developments in the power sector offer for theories of liberalization in India. First, continuities in consumer subsidies show the limits of the state's pro-business turn and the resilience of agricultural power. Nonetheless, the political economy of power today is not reducible only 'rural bias': a wider set of elites also contribute,

[21] Studying five different goods and services across three African countries, Kramon and Posner (2013) found that 'the outcome one studies affects the answer one gets': politicians and officials may compensate groups for higher tariffs in one area with subsidies in another.

including elite domestic consumers, well-connected firms (both domestic and private), and politicians. More broadly, the sector's deep failings have created a situation that is increasingly recognized as a low-level equilibrium, which even some sets of agricultural elites admit might benefit from policy change.

These plural and competing elites tug power policy in different directions, magnified by state fragmentation on both vertical and horizontal lines. Such fraught political dynamics have created a distinctive trajectory of institutional change in the sector. Power reform has proceeded not through displacement of older statist organizations, but through ad hoc institutional layering. The result is a dysfunctional state-market hybrid, with market institutions and private participation grafted onto a loss-making state sector. This system is financed through short-term exploitation of natural resources and the state-owned enterprises that dominate them. Unlike its equivalents in resource-rich emerging economies, then, this hybrid system is neither stable nor coherent.

If it does not amount to a coherent model for the power sector, the dualistic dynamic of institutional change that has emerged from dominant class competition may indeed be a hallmark of Indian liberalization. It captures the surprising resilience, and neglect, of the public sector (Nagaraj 2015; Khanna 2015), even as valuable segments of the economy are 'cherry-picked' for private players.

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